Fig.1

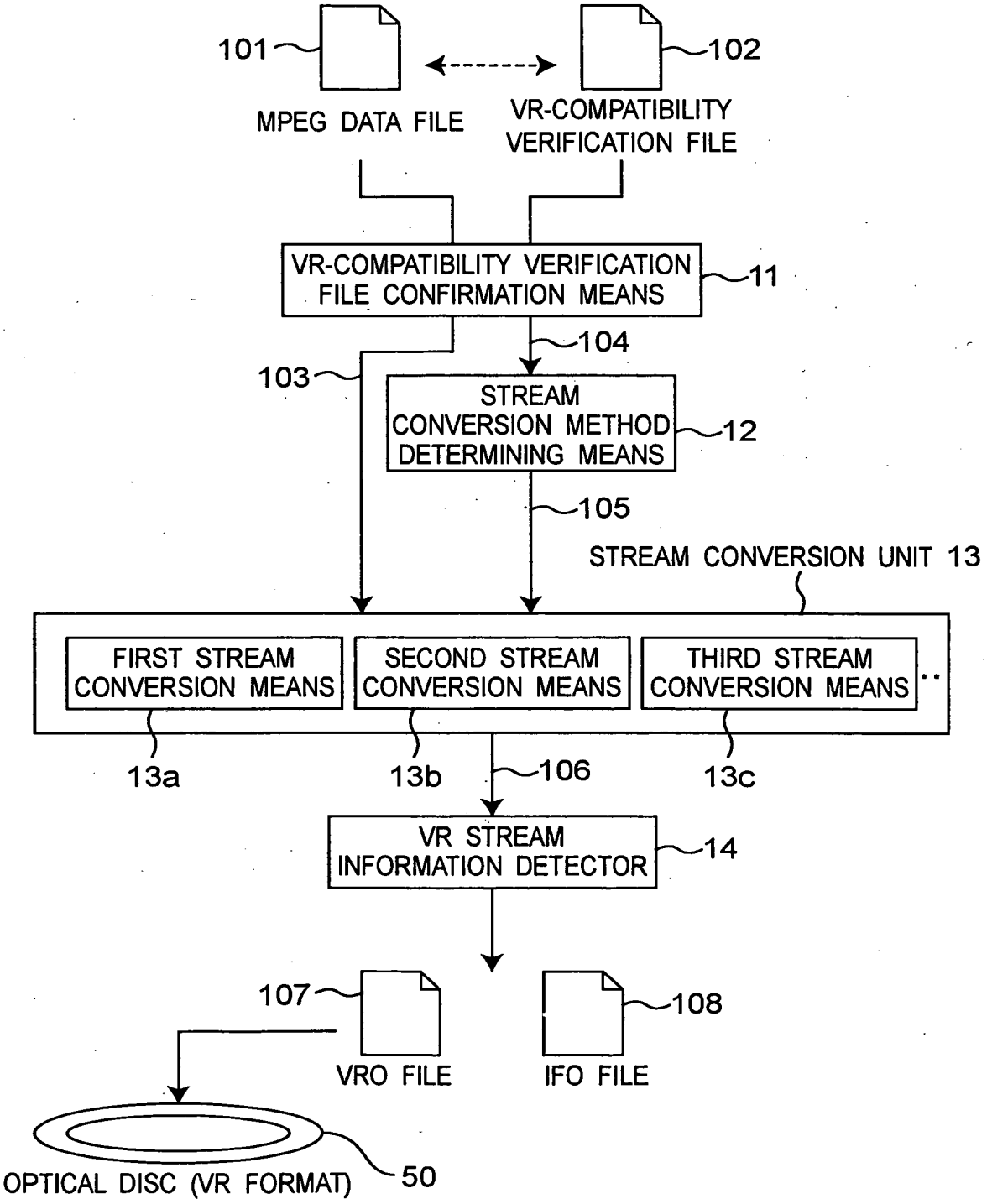

101
102
MPEG DATA FILE
VR-COMPATIBILITY VERIFICATION FILE
VR-COMPATIBILITY VERIFICATION FILE CONFIRMATION MEANS
11
104
103
STREAM CONVERSION METHOD DETERMINING MEANS
12
105
STREAM CONVERSION UNIT 13
FIRST STREAM CONVERSION MEANS
SECOND STREAM CONVERSION MEANS
THIRD STREAM CONVERSION MEANS
13a
13b
106
13c
VR STREAM INFORMATION DETECTOR
14
107
108
VRO FILE
IFO FILE
OPTICAL DISC (VR FORMAT)
50

Fig.2

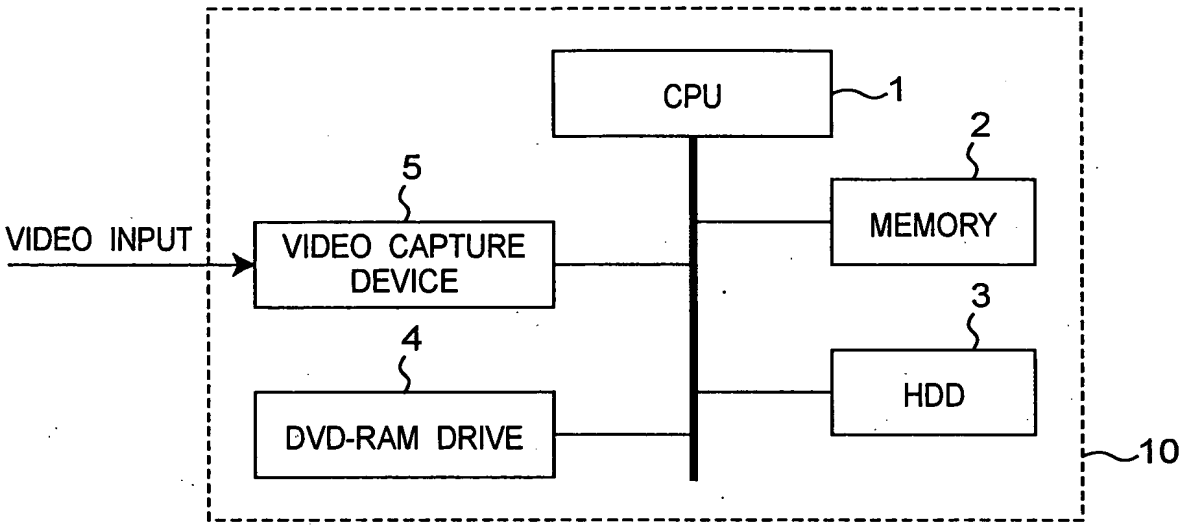

CPU
1
2
MEMORY
5
VIDEO INPUT
VIDEO CAPTURE DEVICE
3
HDD
4
DVD-RAM DRIVE
10

Fig.3

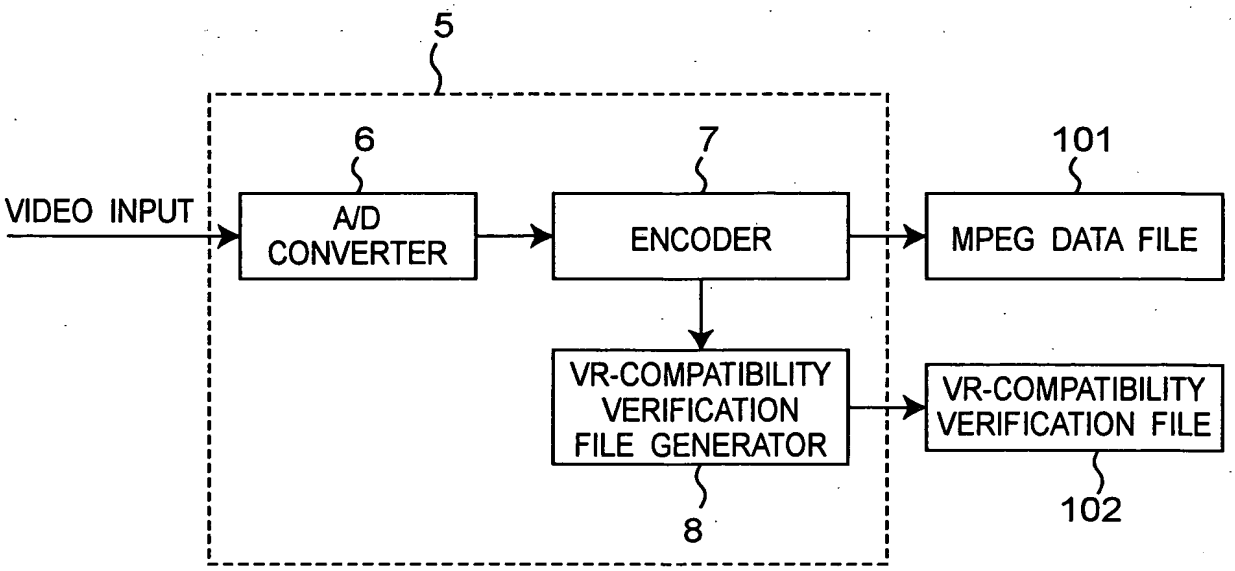

5
6
7
101
VIDEO INPUT
A/D CONVERTER
ENCODER
MPEG DATA FILE
VR-COMPATIBILITY VERIFICATION FILE GENERATOR
VR-COMPATIBILITY VERIFICATION FILE
8
102

Fig.4

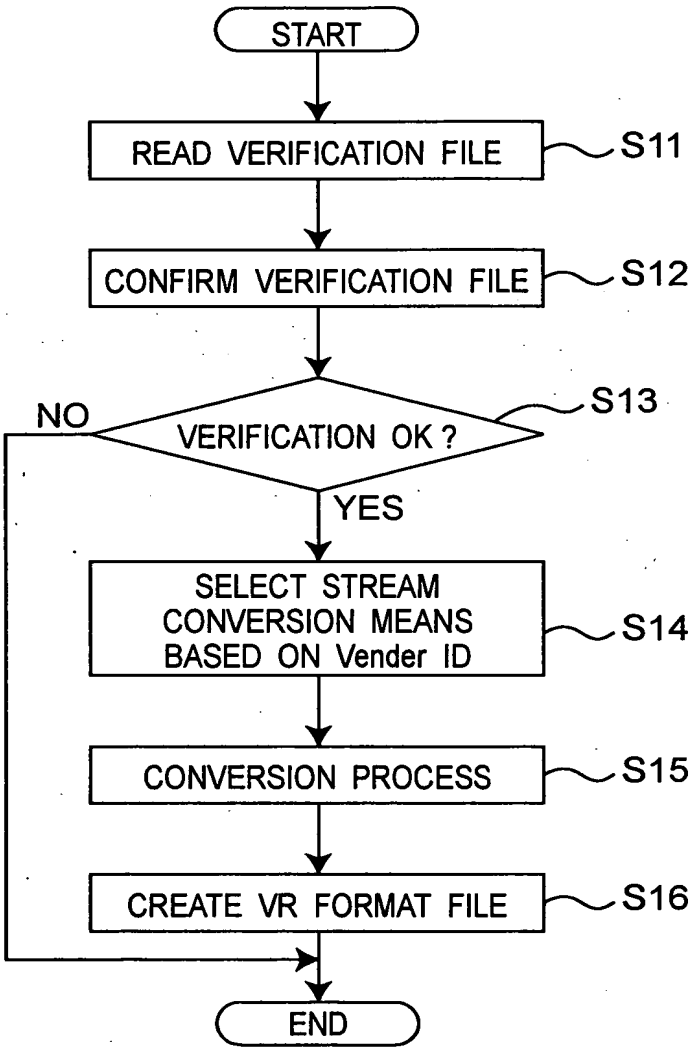

START
READ VERIFICATION FILE
S11
CONFIRM VERIFICATION FILE
S12
NO
VERIFICATION OK ?
S13
YES
SELECT STREAM CONVERSION MEANS BASED ON Vender ID
S14
CONVERSION PROCESS
S15
CREATE VR FORMAT FILE
S16
END

Fig.5A

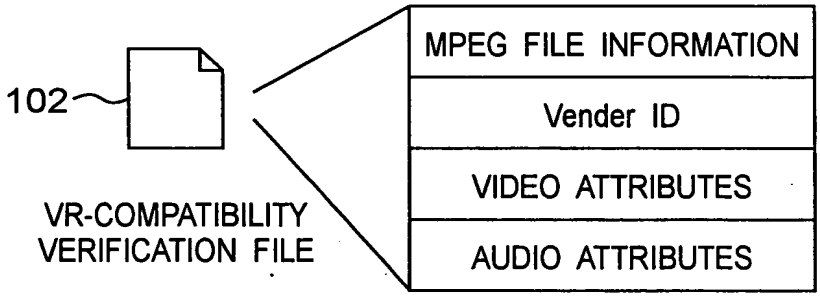

102
VR-COMPATIBILITY VERIFICATION FILE
MPEG FILE INFORMATION
Vender ID
VIDEO ATTRIBUTES
AUDIO ATTRIBUTES

Fig.5B

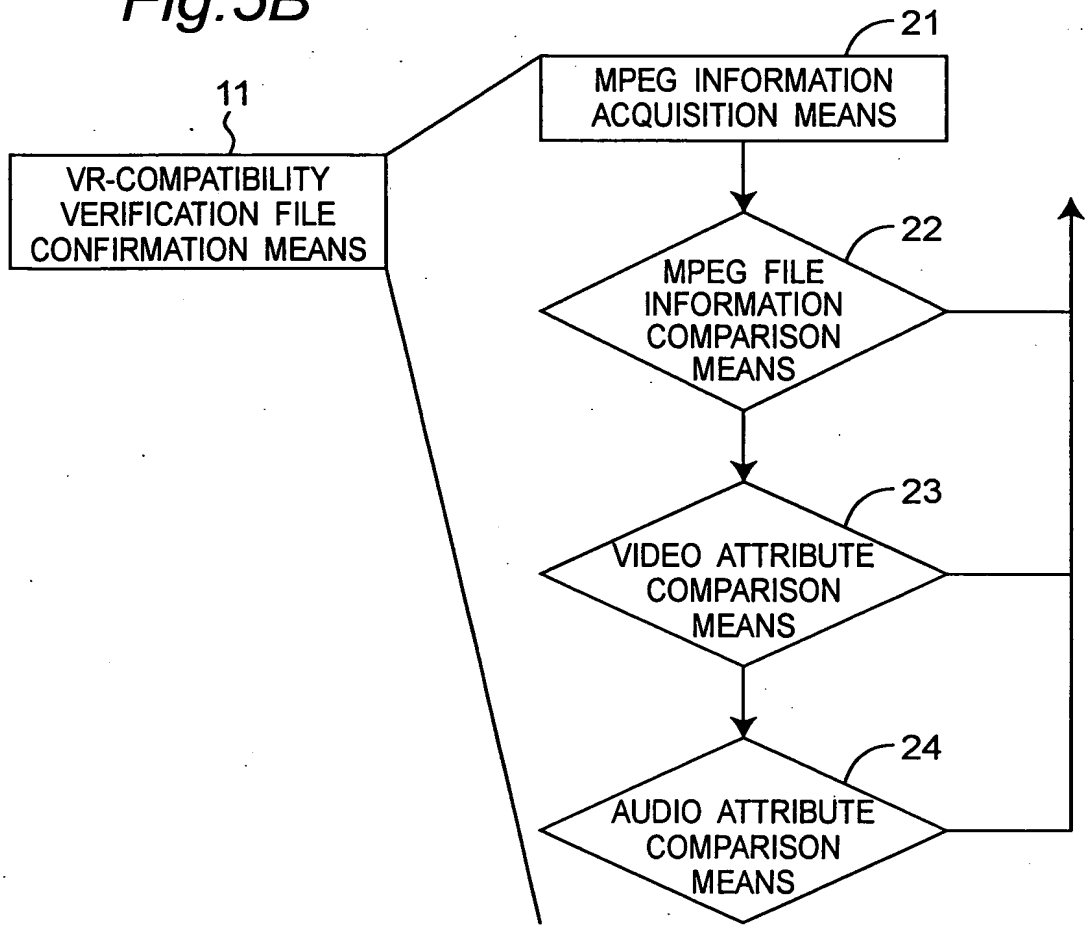

11
VR-COMPATIBILITY VERIFICATION FILE CONFIRMATION MEANS
21
MPEG INFORMATION ACQUISITION MEANS
22
MPEG FILE INFORMATION COMPARISON MEANS
23
VIDEO ATTRIBUTE COMPARISON MEANS
24
AUDIO ATTRIBUTE COMPARISON MEANS

Fig.6A

STREAM CONVERSION MEANS CORRESPONDENCE TABLE (SAMPLE)

Vender ID	STREAM CONVERSION MEANS
Vender_A	FIRST STREAM CONVERSION MEANS
Vender_B	NO STREAM CONVERSION MEANS
Vender_C	SECOND STREAM CONVERSION MEANS
Vender_D	THIRD STREAM CONVERSION MEANS
Vender_E	THIRD AND SIXTH STREAM CONVERSION MEANS
Vender_F	FOURTH STREAM CONVERSION MEANS
Vender_G	FIFTH STREAM CONVERSION MEANS
Vender_H	SIXTH STREAM CONVERSION MEANS
Vender_I	SEVENTH STREAM CONVERSION MEANS
Vender_J	EIGHTH STREAM CONVERSION MEANS
UNDEFINED	

Fig.6B

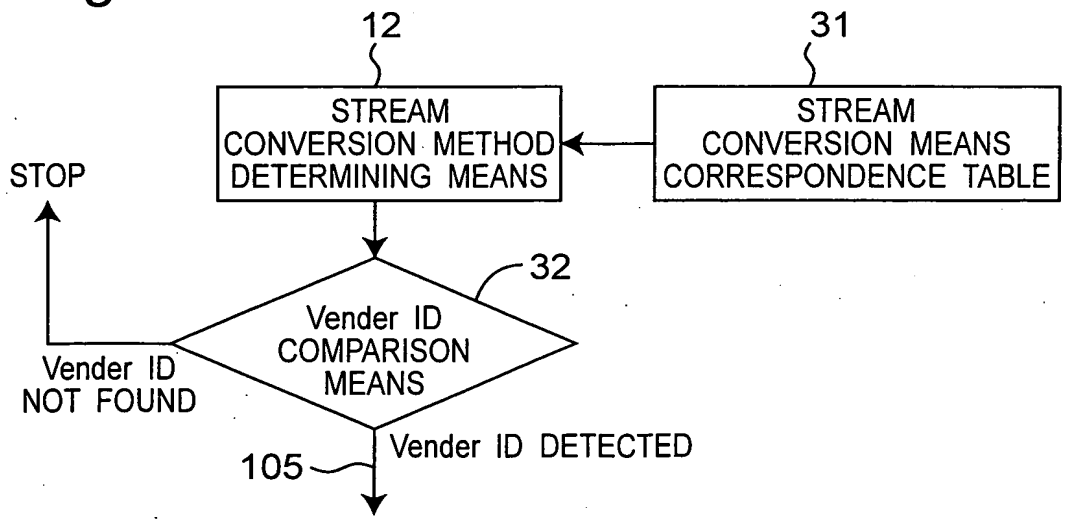


Fig.7

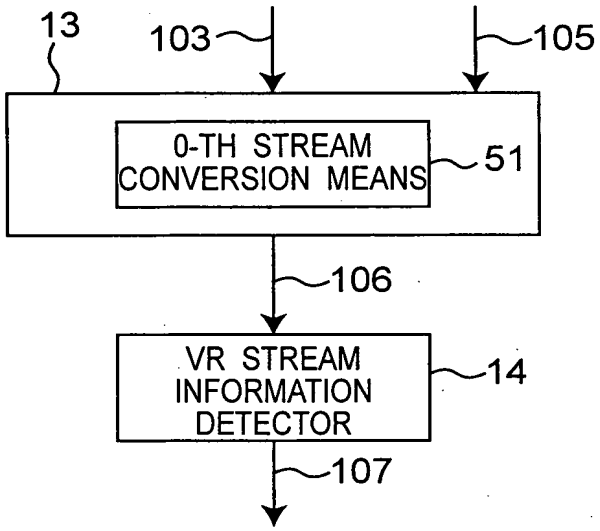

13
103
105
0-TH STREAM CONVERSION MEANS
51
106
VR STREAM INFORMATION DETECTOR
14
107

Fig.8

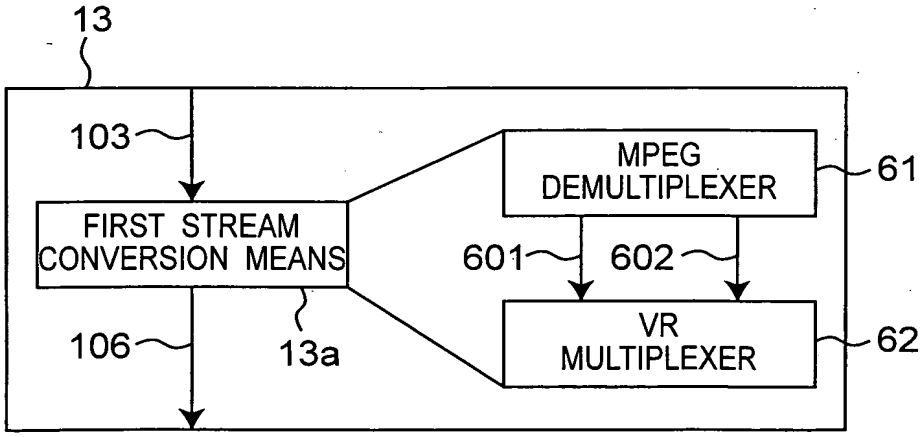

13
103
FIRST STREAM CONVERSION MEANS
106
13a
MPEG DEMULTIPLEXER
61
601
602
VR MULTIPLEXER
62

Fig.9

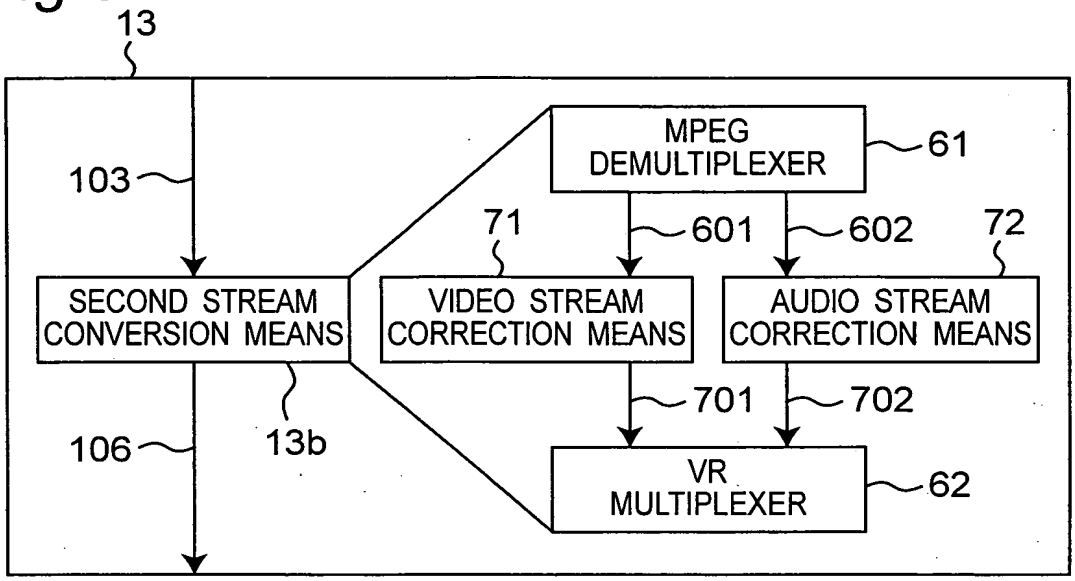

13
103
MPEG DEMULTIPLEXER
61
71
601
602
72
SECOND STREAM CONVERSION MEANS
VIDEO STREAM CORRECTION MEANS
AUDIO STREAM CORRECTION MEANS
701
702
106
13b
VR MULTIPLEXER
62

Fig.10

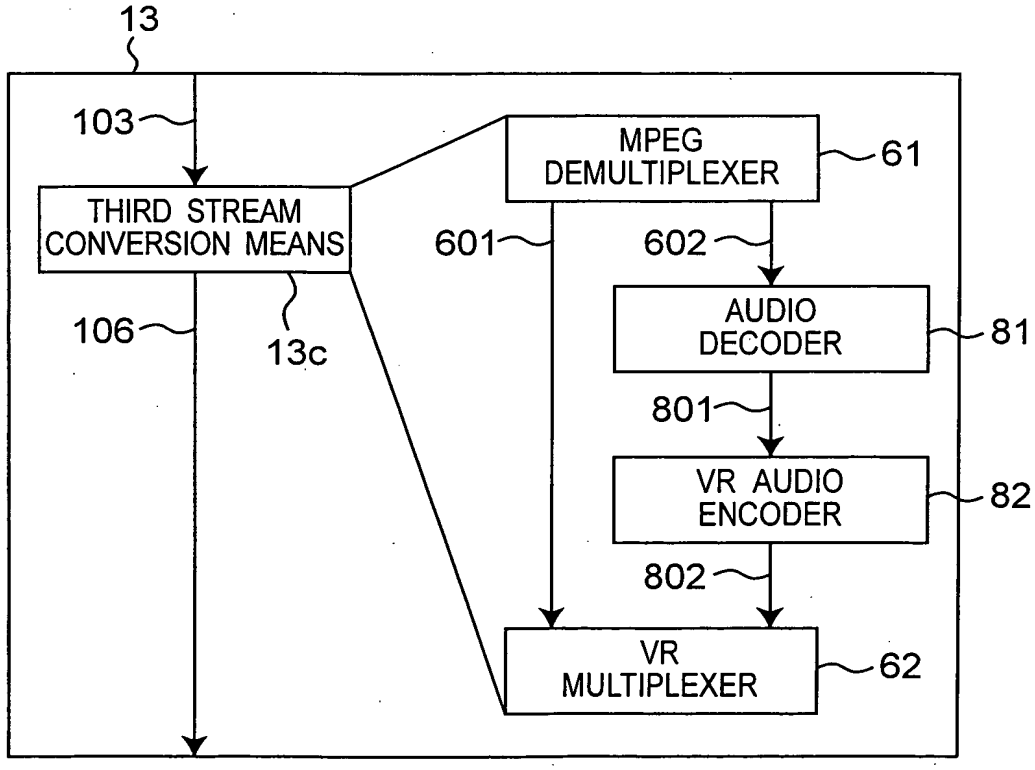

13
103
MPEG DEMULTIPLEXER
61
THIRD STREAM CONVERSION MEANS
601
602
AUDIO DECODER
81
106
13c
801
VR AUDIO ENCODER
82
802
VR MULTIPLEXER
62

Fig.11

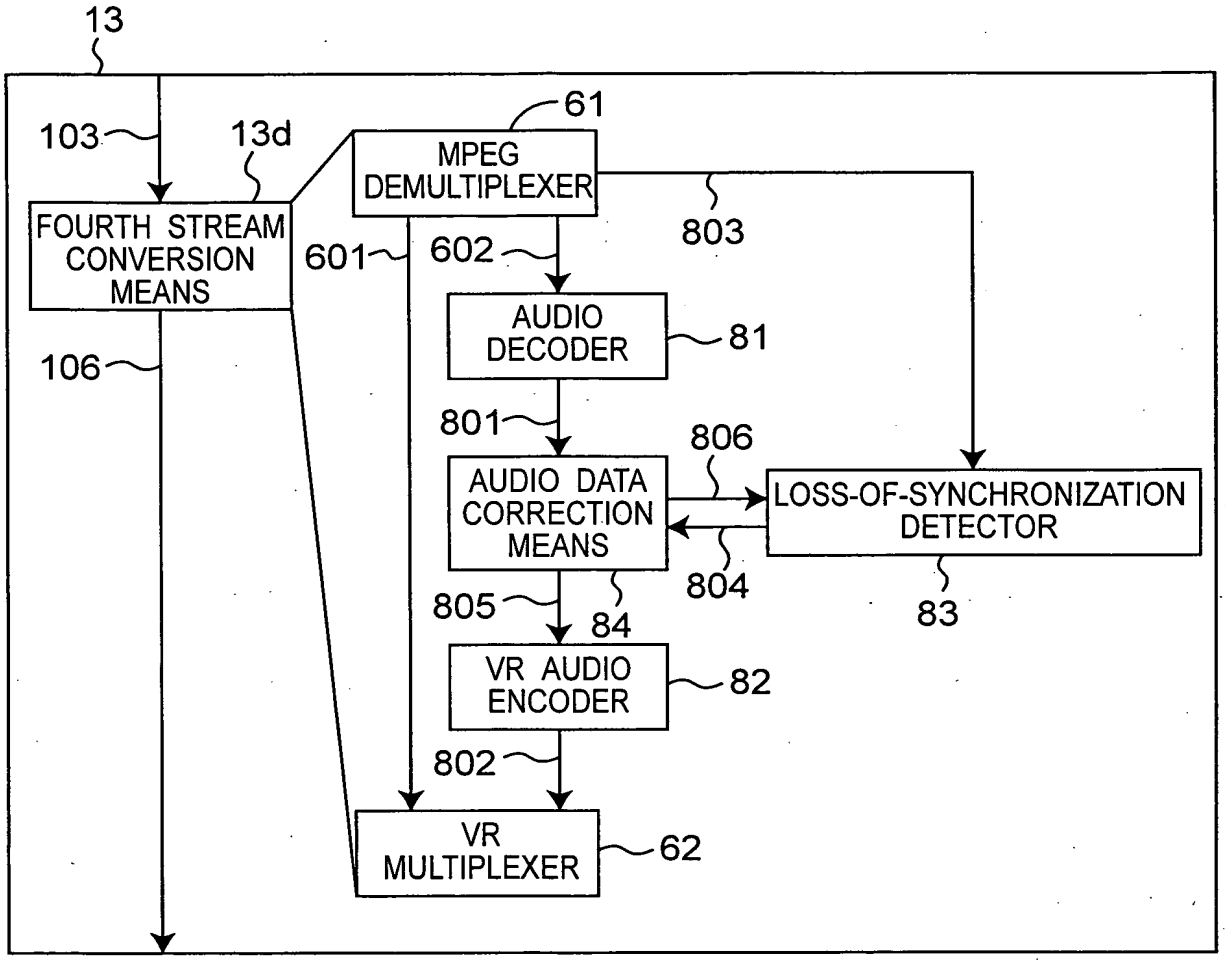

13
103
13d
61
MPEG DEMULTIPLEXER
FOURTH STREAM CONVERSION MEANS
601
602
803
AUDIO DECODER
81
106
801
806
AUDIO DATA CORRECTION MEANS
LOSS-OF-SYNCHRONIZATION DETECTOR
804
805
84
83
VR AUDIO ENCODER
82
802
VR MULTIPLEXER
62

Fig.12

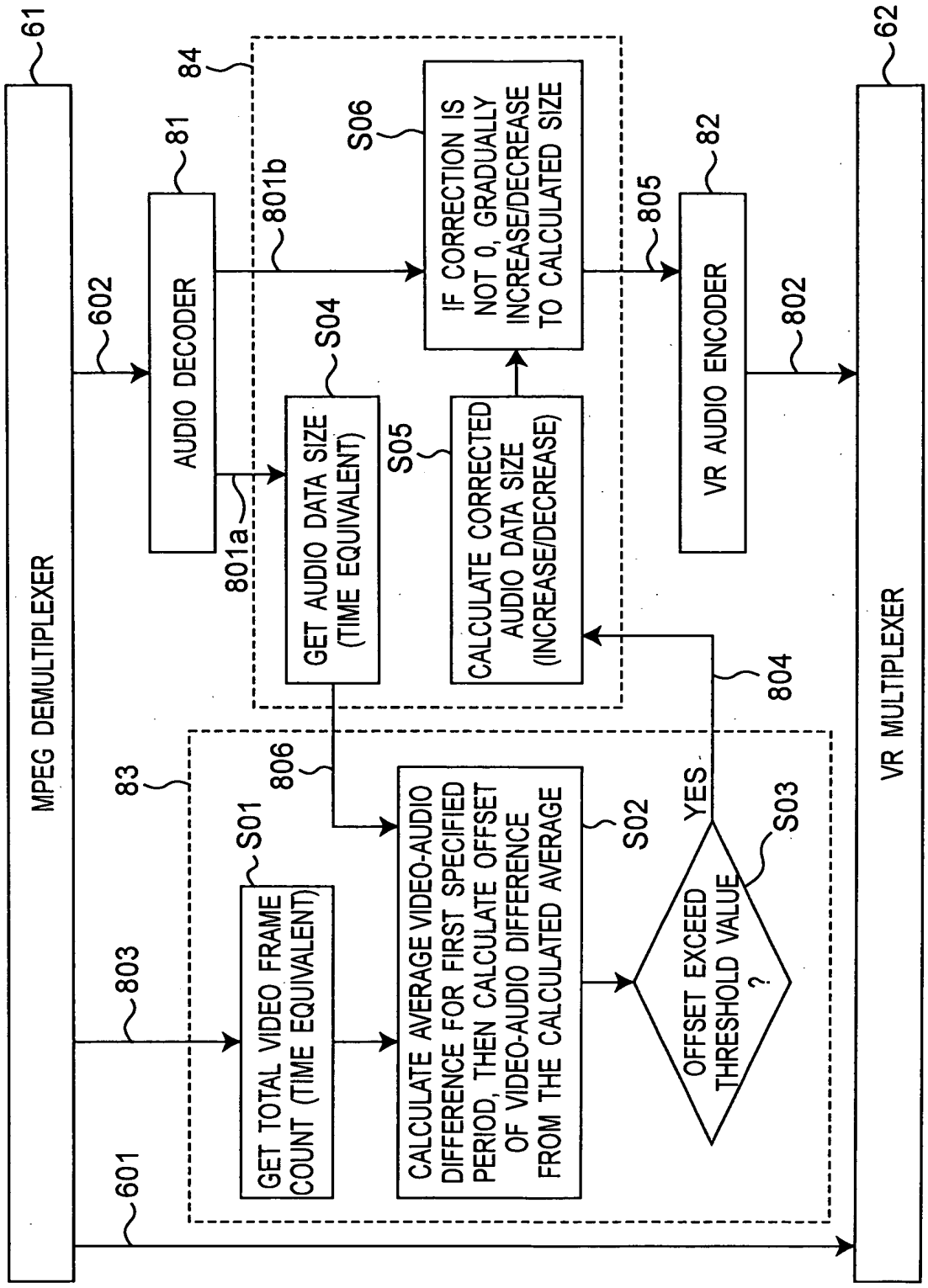

61
MPEG DEMULTIPLEXER
602
AUDIO DECODER
81
84
801b
801a
S04
GET AUDIO DATA SIZE (TIME EQUIVALENT)
S05
CALCULATE CORRECTED AUDIO DATA SIZE (INCREASE/DECREASE)
S06
IF CORRECTION IS NOT 0, GRADUALLY INCREASE/DECREASE TO CALCULATED SIZE
805
82
VR AUDIO ENCODER
802
62
VR MULTIPLEXER
804
83
806
S01
GET TOTAL VIDEO FRAME COUNT (TIME EQUIVALENT)
803
S02
CALCULATE AVERAGE VIDEO-AUDIO DIFFERENCE FOR FIRST SPECIFIED PERIOD, THEN CALCULATE OFFSET OF VIDEO-AUDIO DIFFERENCE FROM THE CALCULATED AVERAGE
YES
S03
OFFSET EXCEED THRESHOLD VALUE ?
601

Fig.13

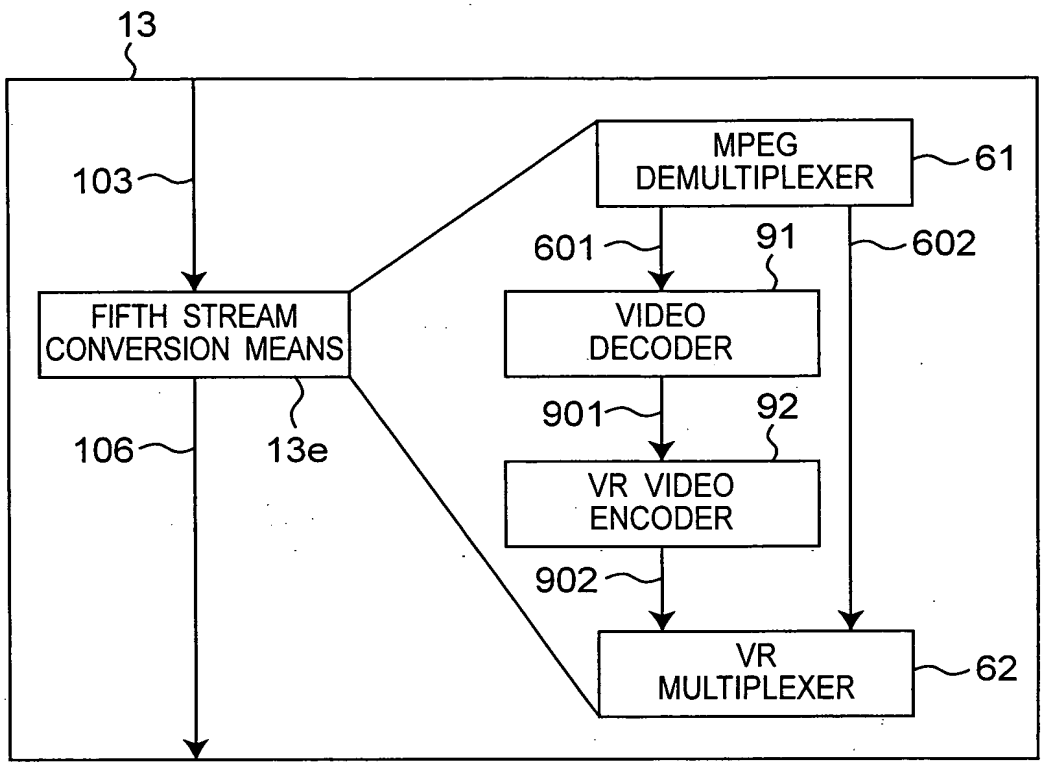

13
103
MPEG DEMULTIPLEXER
61
601
91
602
FIFTH STREAM CONVERSION MEANS
VIDEO DECODER
901
92
106
13e
VR VIDEO ENCODER
902
VR MULTIPLEXER
62

Fig.14

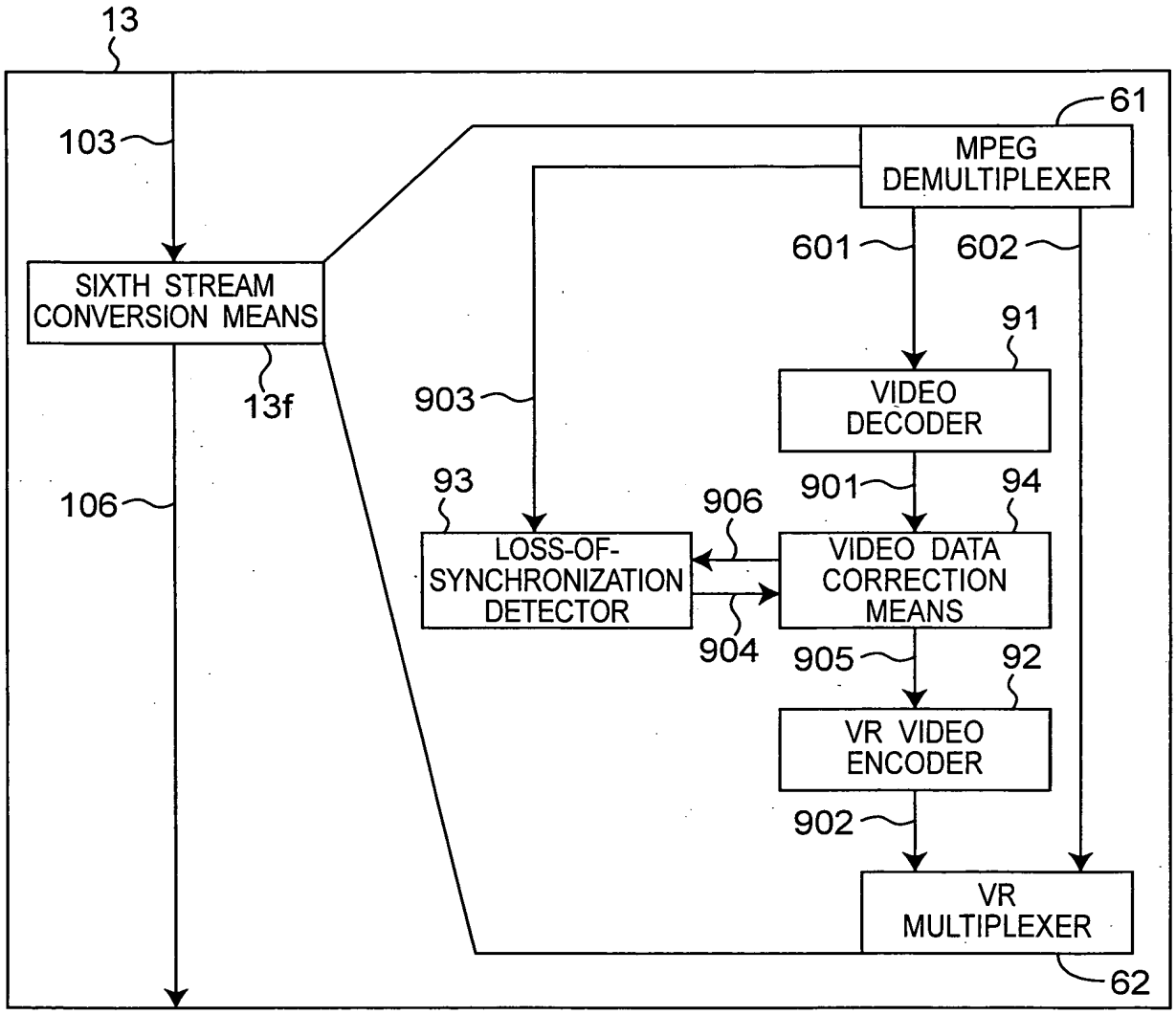

13
103
SIXTH STREAM CONVERSION MEANS
13f
106
61
MPEG DEMULTIPLEXER
601
602
91
VIDEO DECODER
903
93
901
94
906
LOSS-OF-SYNCHRONIZATION DETECTOR
VIDEO DATA CORRECTION MEANS
904
905
92
VR VIDEO ENCODER
902
VR MULTIPLEXER
62

Fig.15

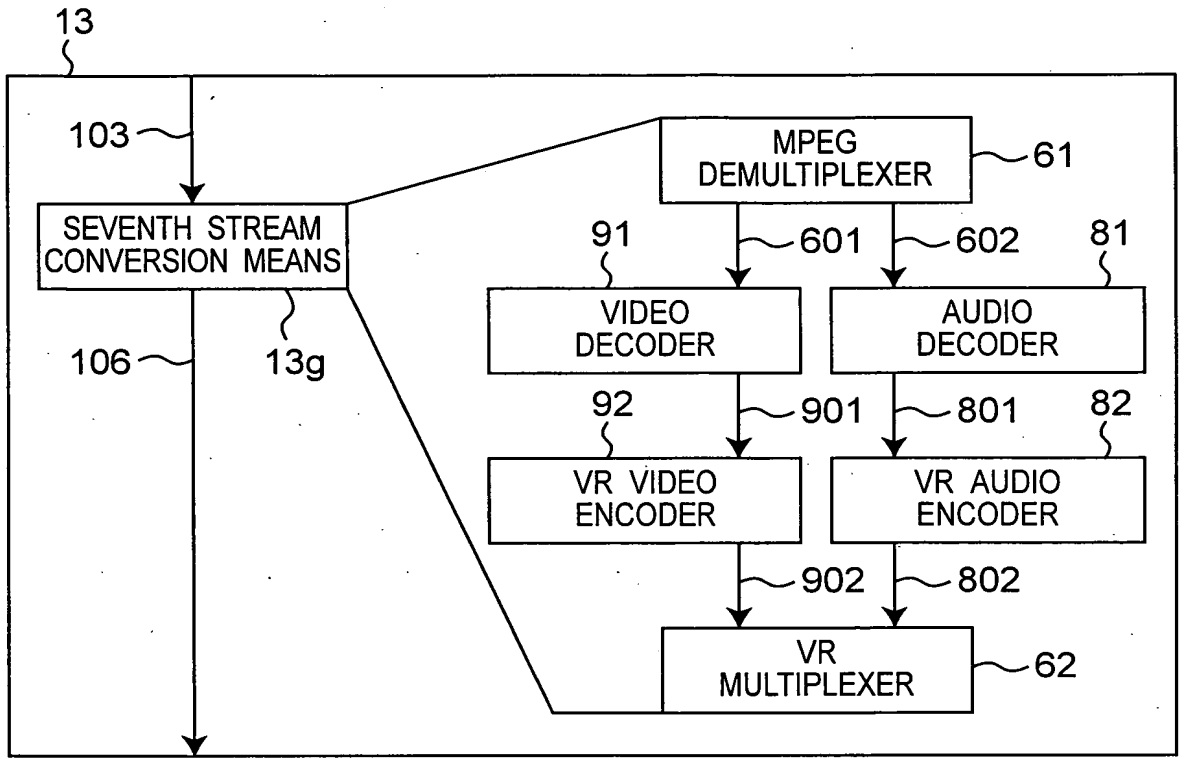

13
103
SEVENTH STREAM CONVERSION MEANS
106
13g
MPEG DEMULTIPLEXER
61
91
601
602
81
VIDEO DECODER
AUDIO DECODER
92
901
801
82
VR VIDEO ENCODER
VR AUDIO ENCODER
902
802
VR MULTIPLEXER
62

Fig.16

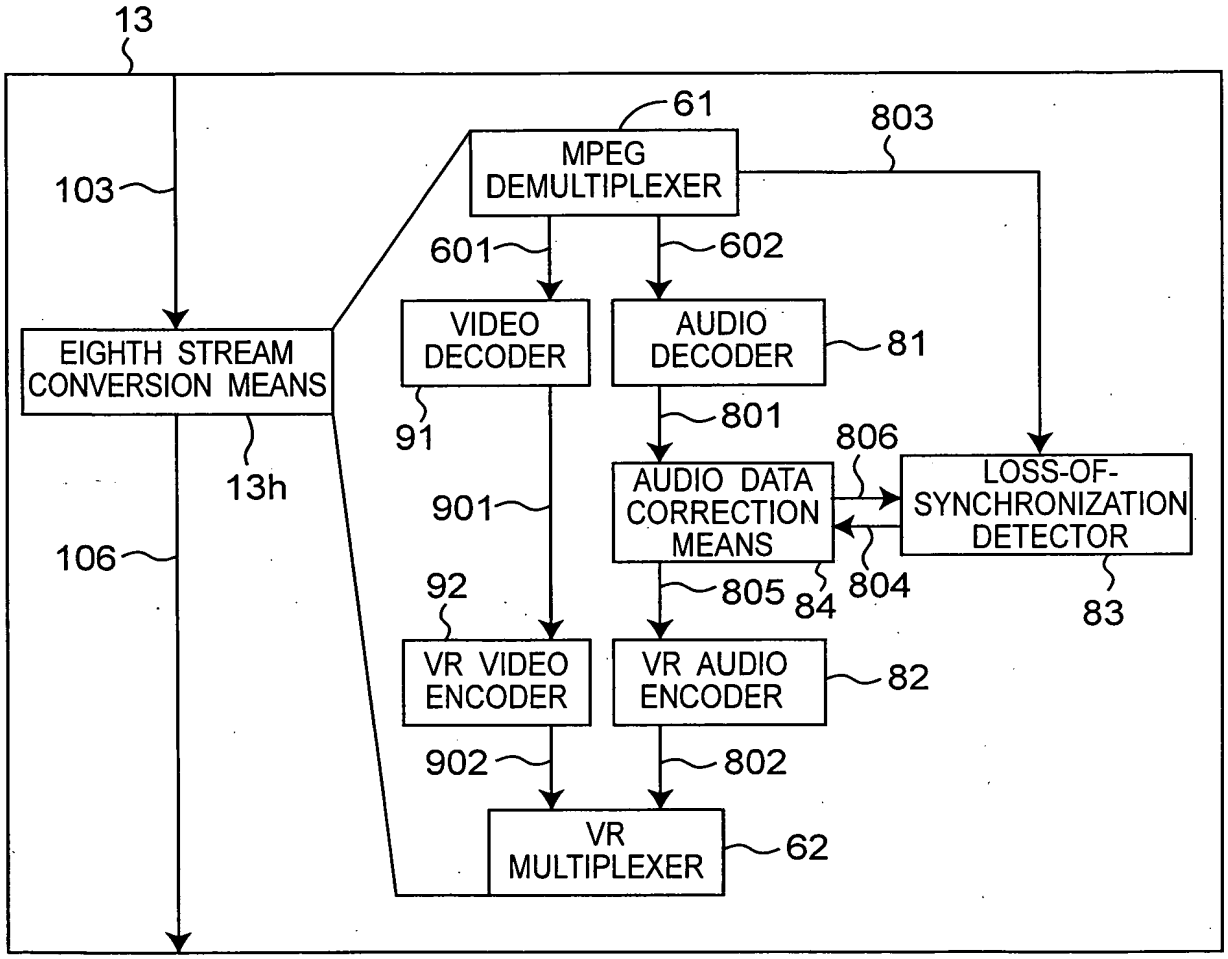

13
103
106
EIGHTH STREAM CONVERSION MEANS
13h
61
MPEG DEMULTIPLEXER
803
601
602
VIDEO DECODER
AUDIO DECODER
81
91
801
806
AUDIO DATA CORRECTION MEANS
LOSS-OF-SYNCHRONIZATION DETECTOR
901
804
84
805
83
92
VR VIDEO ENCODER
VR AUDIO ENCODER
82
902
802
VR MULTIPLEXER
62

Fig.17

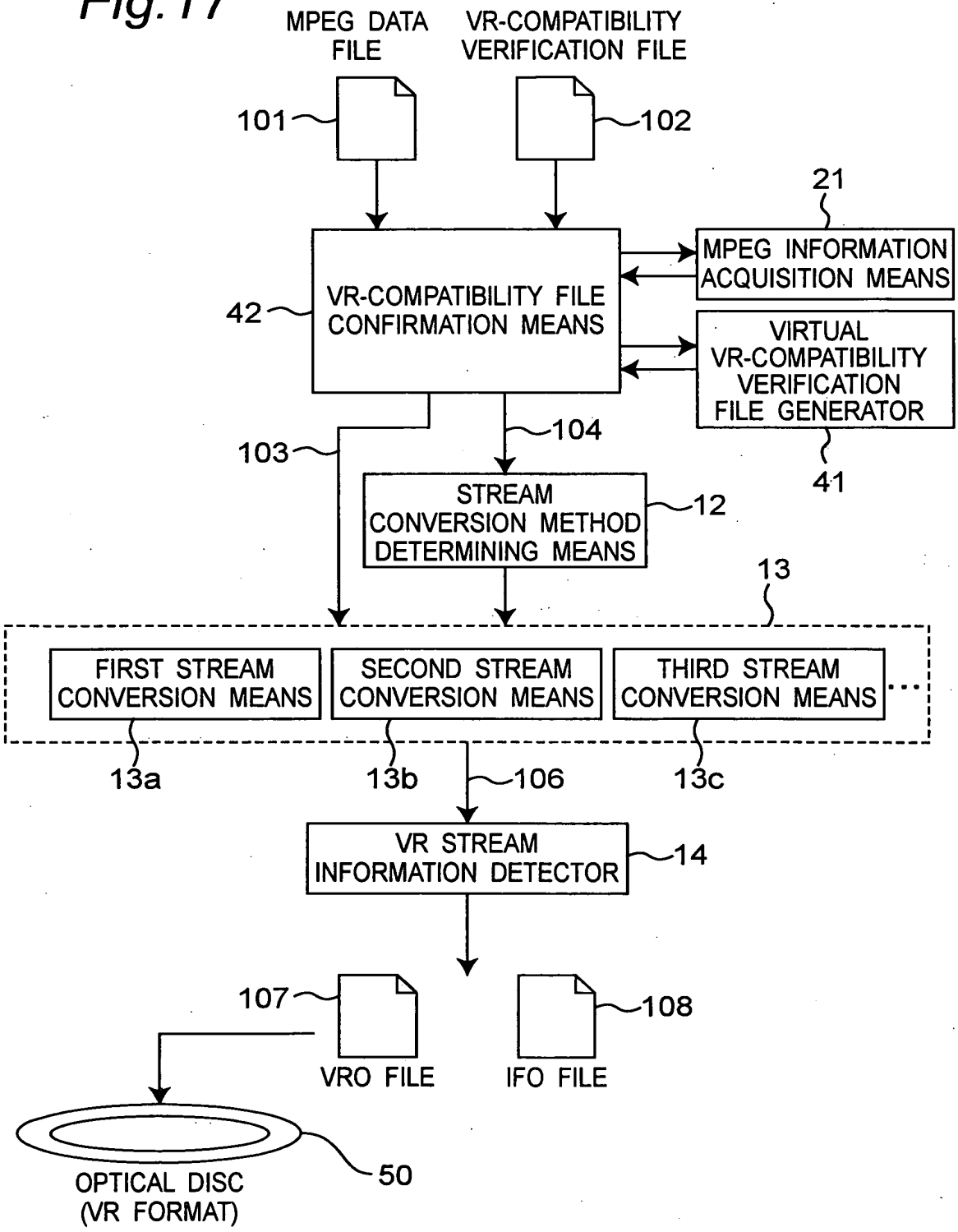

MPEG DATA FILE
VR-COMPATIBILITY VERIFICATION FILE
101
102
21
MPEG INFORMATION ACQUISITION MEANS
42
VR-COMPATIBILITY FILE CONFIRMATION MEANS
VIRTUAL VR-COMPATIBILITY VERIFICATION FILE GENERATOR
41
103
104
STREAM CONVERSION METHOD DETERMINING MEANS
12
13
FIRST STREAM CONVERSION MEANS
SECOND STREAM CONVERSION MEANS
THIRD STREAM CONVERSION MEANS
13a
13b
106
13c
VR STREAM INFORMATION DETECTOR
14
107
108
VRO FILE
IFO FILE
OPTICAL DISC (VR FORMAT)
50

Fig.18

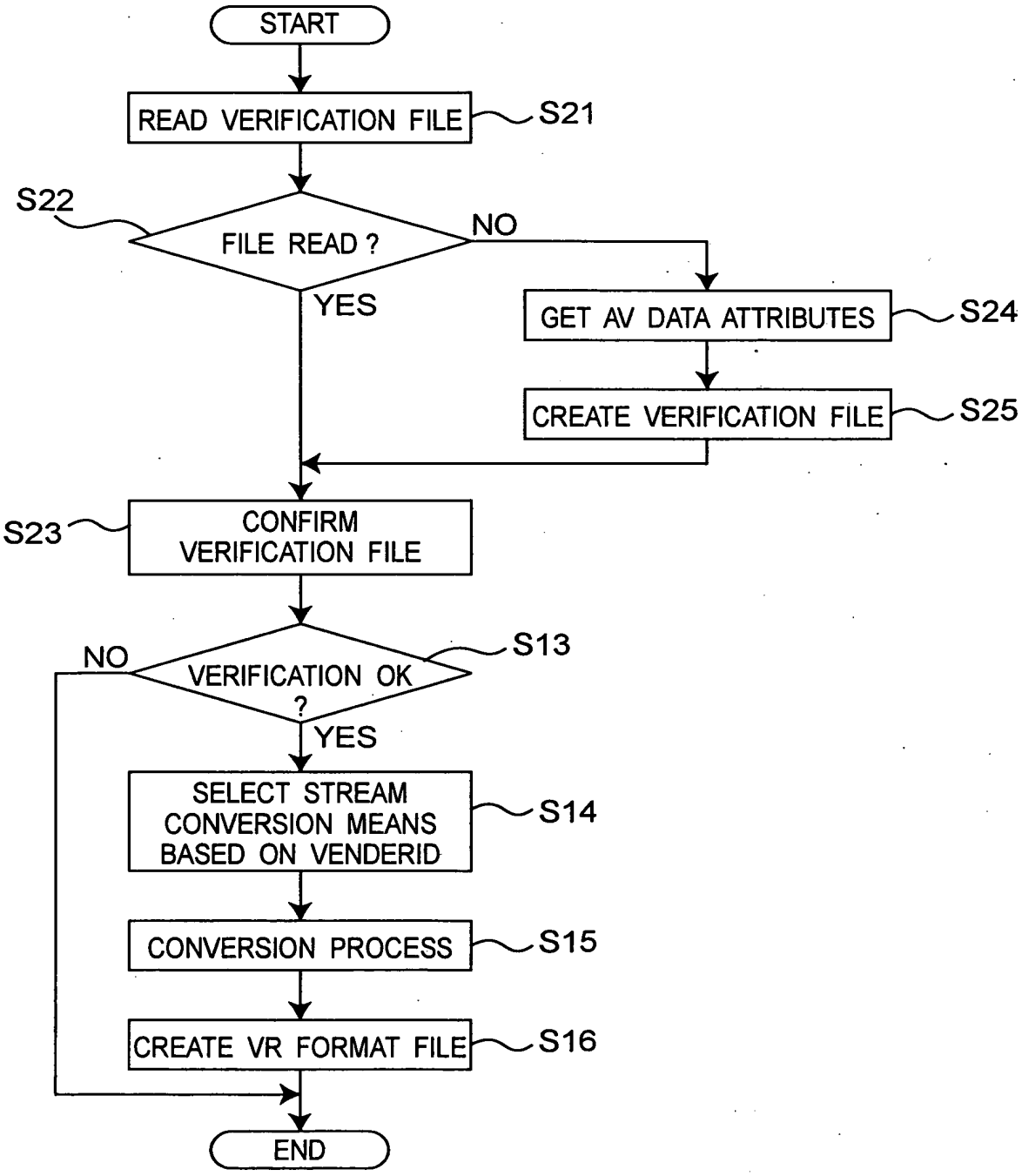
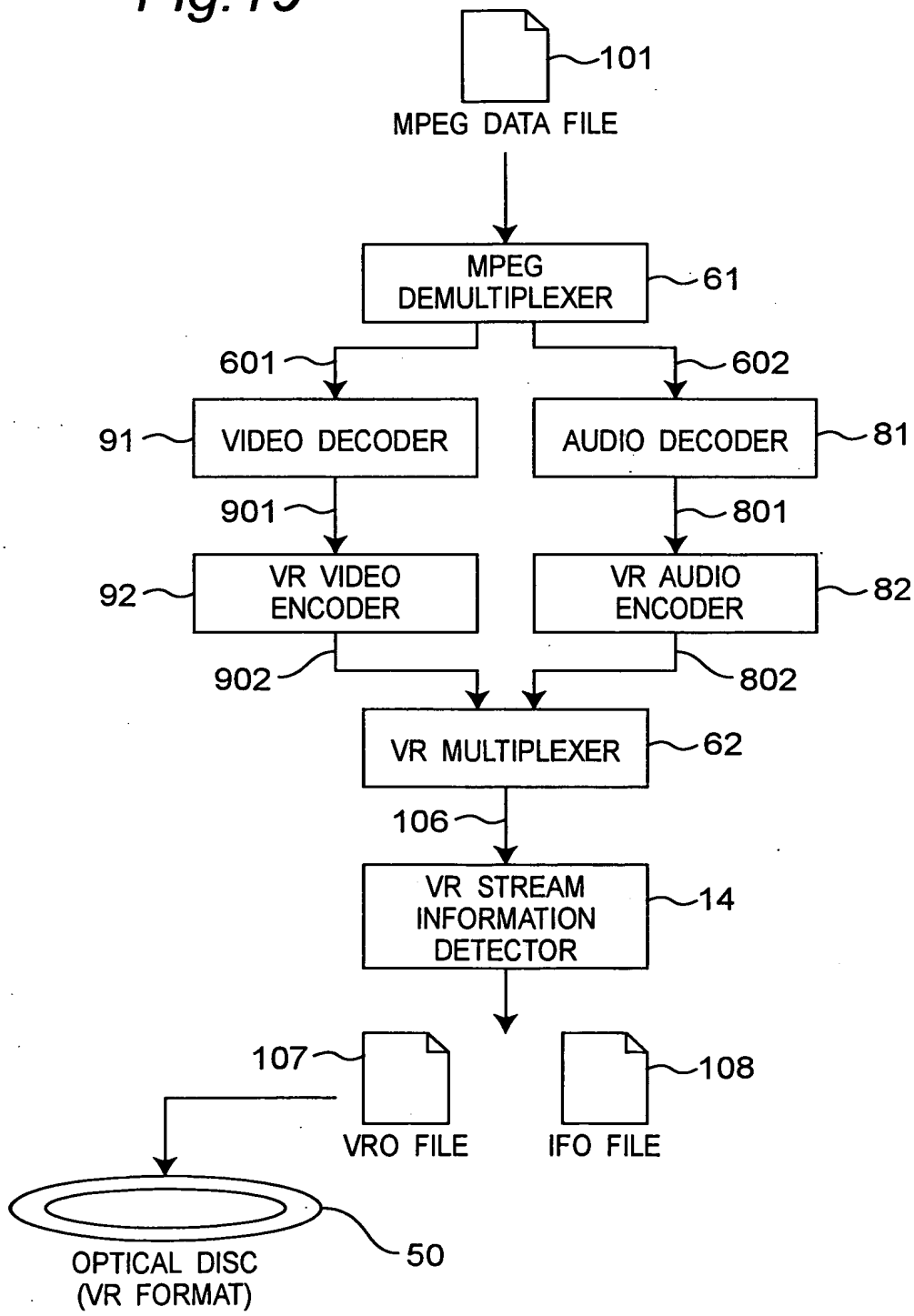

START
READ VERIFICATION FILE
S21
S22
FILE READ ?
NO
YES
GET AV DATA ATTRIBUTES
S24
CREATE VERIFICATION FILE
S25
S23
CONFIRM VERIFICATION FILE
NO
VERIFICATION OK ?
S13
YES
SELECT STREAM CONVERSION MEANS BASED ON VENDERID
S14
CONVERSION PROCESS
S15
CREATE VR FORMAT FILE
S16
END

Fig.19


101
MPEG DATA FILE
MPEG DEMULTIPLEXER
61
601
602
91
VIDEO DECODER
AUDIO DECODER
81
901
801
92
VR VIDEO ENCODER
VR AUDIO ENCODER
82
902
802
VR MULTIPLEXER
62
106
VR STREAM INFORMATION DETECTOR
14
107
108
VRO FILE
IFO FILE
OPTICAL DISC (VR FORMAT)
50